We claim:

1. An apparatus for generating heat, comprising:

    a rigid container within which a material to be warmed is contained;

    a chamber disposed about the container; and

    an activatable heating substance positioned within the chamber, which activatable heating substance when activated releases heat to warm the material within the container.

2. The apparatus of claim 1, wherein the activatable heating substance comprises one of supercooled sodium acetate, lead acetate, calcium nitrate tetrahydrate, sodium pyrophosphate, sodium thiosulfate, and trimethylol ethane hydrate.

3. The apparatus of claim 1, further comprising an initiator which activates the activatable heating substance.

4. The apparatus of claim 3, wherein the initiator comprises a plunger penetrably displaceable into the chamber to contact the activatable heating substance.

5. The apparatus of claim 4, wherein the chamber comprises a hole and a foil seal sealing the hole, and wherein the plunger is penetrably displaceable through the foil seal and the hole.

6. The apparatus of claim 3, wherein the initiator comprises a plunger and a trigger coupled to the plunger, the plunger adjacent a hole into the chamber, and the hole sealed by a diaphragm, when the trigger is unpulled.

7. The apparatus of claim 6, wherein the plunger penetrates the diaphragm when the trigger is pulled, and the activatable heating substance is contacted to an ambient environment.

8. The apparatus of claim 7, wherein the plunger is hollow, and the ambient environment comprises a quantity of air inside the plunger.

9. The apparatus of claim 3, wherein the activatable heating substance comprises calcium chloride, and the initiator comprises water.

10. The apparatus of claim 3, wherein the initiator comprises a plunger penetrably displaceable into the chamber and removably coupled to an activator.

11. The apparatus of claim 3, wherein the initiator comprises a spring flexibly mounted in an opening of the chamber.

12. The apparatus of claim 3, wherein the initiator comprises a disk flexibly mounted in an opening of the chamber.

13. The apparatus of claim 3, wherein the initiator comprises a screw having a noninsulated proximal end and an electrically insulated distal end, which screw is disposed in a threaded hole into the chamber such that the proximal end does not contact the activatable heating substance.
14. The apparatus of claim 13, wherein the screw is advanced through the threaded hole, whereby the proximal end contacts the activatable heating substance and activates the substance.
15. The apparatus of claim 1, further comprising a lid removably coupled to the container.
16. The apparatus of claim 15, wherein the lid comprises a hinge and wherein a portion of the lid is hingedly rotatable.
17. The apparatus of claim 1, further comprising an insulating sleeve disposed about the chamber.
18. The apparatus of claim 17, wherein the insulating sleeve comprises one of neoprene, styrofoam, or urethane.
19. The apparatus of claim 1, wherein with activation, the activatable heating substance produces heat sufficient to warm the material within the container to a preselected temperature range.
20. The apparatus of claim 1, wherein with activation, the activatable heating substance produces heat sufficient to maintain the material above room temperature for at least about 2 hours.
21. The apparatus of claim 1, wherein with activation, the activatable heating substance produces heat sufficient to maintain the material above room temperature for at least about 4 hours.
22. The apparatus of claim 1, wherein the activatable heating substance comprises about 1250 milliliters of supercooled sodium acetate solution having a concentration of about 17.68 molar, which substance upon activation produces heat sufficient to warm about 800 milliliters of material at about 68.5 degrees Fahrenheit to a temperature between 95 and 120 degrees Fahrenheit and maintain it between 95 and 120 degrees Fahrenheit for at least about 2 hours.
23. The apparatus of claim 1, wherein the activatable heating substance comprises about 400 milliliters of supercooled sodium acetate solution having a concentration of about 17.68 molar, which substance upon activation produces heat sufficient to maintain about 500 milliliters of material pre-warmed to about 98.6 degrees

Fahrenheit at a temperature between 95 and 120 degrees Fahrenheit for at least about 2 hours.

24. The apparatus of claim 1, wherein the container comprises one of polypropylene, nylon, polyethylene, vinyl, stainless steel, and titanium.
25. The apparatus of claim 1, wherein the container comprises a spout.
26. The apparatus of claim 1, wherein the apparatus is sterilizable.
27. The method of claim 1, wherein the heating substance has a first state prior to activating and a second state after activating.
28. The method of claim 1, wherein the heating substance is restored to the first state after activation and may be activated again.
29. A warming container, comprising:

    an inner wall and an outer wall, the inner wall defining an inner chamber to receive an article to be warmed therein, the outer wall and inner wall defining an outer chamber, the outer chamber being airtight, the inner wall separating the outer chamber from the inner chamber and preventing communication between the chambers,

    a supercooled aqueous salt solution, disposed within and at least partly filling the outer chamber, and

    an initiator associated with the warming container for selectively activating the supercooled aqueous salt solution to cause the solution to undergo an exothermic crystallization.

30. A warming container, comprising:

    a bowl;

    a sleeve disposed about the bowl, the bowl and sleeve defining a chamber therebetween; and

    a bag containing an activatable heating substance disposed within the chamber.

31. A system for warming surgical fluids, comprising:
    a power source;
    a sterile enclosure for the power source;

a resistive heater powered by and operably connected to the power source, the resistive heater being capable of being rendered sterile prior to its operable connection to the power source and further capable of remaining sterile after being operably connected to the power source; and

a bowl holder dimensionally adapted for stably holding a surgical bowl and capable of transferring heat produced by the resistive heater to surgical fluid contained within the surgical bowl.

32. The system of claim 31, wherein the power source comprises a rechargeable battery.

33. The system of claim 31, wherein the sterile enclosure is disposable.

34. The system of claim 31, wherein the resistive heater surrounds a portion of the surgical bowl.

35. The system of claim 31, further comprising a temperature controller for regulating the heat produced by the resistive heater.

36. The system of claim 35, further comprising a temperature feedback system having a temperature sensor that senses the temperature of the fluid within the surgical bowl and a temperature signaler that signals the temperature controller to regulate the heat produced by the resistive heater so as to achieve a pre-selected temperature within the fluid.

37. A method for warming a material, comprising

providing an apparatus for generating heat, comprising:

a rigid container, and

an activatable heating substance disposed about the container;

positioning the material to be warmed within the container; and

activating the heating substance.

38. A method for warming a material, comprising

providing an apparatus for generating heat, comprising a rigid container:

placing an activatable heating substance around the container;

positioning the material to be warmed within the container; and

activating the heating substance.

39. A method for warming a material, comprising

providing an apparatus for generating heat, comprising:

a rigid container,

an activatable heating substance disposed about the container, and

an initiator to activate the activatable heating substance;

positioning the material to be warmed within the container; and

activating the initiator.

40. The method of claim 39, wherein the heating substance has a first state prior to activating and a second state after activating.

41. The method of claim 40, further comprising restoring the heating substance to the first state.